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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,508	12/05/2003	Lavinia C. Popescu	02.36US	9085

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THE ESTEE LAUDER COS, INC
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EXAMINER

KOSSON, ROSANNE

ART UNIT PAPER NUMBER

1653

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,508

Applicant(s)

POPESCU ET AL.

Examiner

Rosanne Kosson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicants' arguments, see Appeal Brief, filed on August 30, 2006, with respect to the rejection(s) of claim(s) 1-18 under final rejection have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. In view of the new ground of rejection set forth below, however, the finality of the previous Office action is hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claims 1 and 10 recite the term "retention-effective amount of a transglutaminase." This term is defined in the specification on p. 3 as the amount effective to retain or enhance curl, but the specification does not indicate what this amount is. Thus, this amount and this term are undefined, rendering the metes and bounds of the claims unclear. Appropriate correction is required. This term may be replaced with the quantitative range of transglutaminase used as disclosed in the specification on p. 3, 1st paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-12 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanebo Ltd. (JP 02-204407, see English full-text translation and English abstract) as evidenced by Ajinomoto Co. Inc. (JP 03-213574, see English translation).

Kanebo discloses a hair cosmetic composition comprising transglutaminase. This cosmetic composition is designed for and applied to hair that is frequently permed, subjected to a hair dryer and/or washed (see p. 2, 1st and 4th paragraphs of the full-text translation). Transglutaminase catalyzes the cross-linking reaction of free glutamine residues with lysine residues in the outermost layer of the hair. This treatment imparts, i.e., greater density and springiness to the hair (see English abstract) and makes the hair more flexible and elastic (see p. 2, last paragraph, and p. 3, 1st two paragraphs of the English full-text translation). When curls are made springier or more elastic, they are enhanced, because their appearance and texture are softer. They are also retained better (and enhanced because they are retained better) than if they were not elastic, because if they were not elastic, a force causing them to straighten without the ability to bounce back would leave the hair straight. The amount of transglutaminase in the composition is 0.01% by weight or 0.1% by weight (see Examples 1, 3 and 4, pp. 6-7 of the full-text translation). A retention-effective amount of transglutaminase is 0.0001-0.1% by weight (see p. 4, 2^d full paragraph, of the full-text translation), the range between the minimum amount required for enzyme activity and the amount above which no

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further effect is observed. Because the claims do not recite how much curl is to be enhanced or retained, a cosmetically effective amount is a retention-effective amount, because this amount is the amount needed for an effect. The source of the transglutaminase may be mammalian or microbial, as the cells of both of these types of organisms contain transglutaminase (see p. 3, 3^d paragraph of the full-text translation). The pH of the transglutaminase-containing compositions is 7.6, which is about 7, as the specification does not define the term "about" (see Examples 1, 3 and 4, pp. 6-7 of the full-text translation).

Kanebo discloses Applicants' composition and the claimed one-step method of applying this composition to hair. Because Kanebo's method and Applicants' method are the same, Kanebo's method inherently has the same effect as Applicants' method. Using transglutaminase in the same way that Applicants do achieves the same result that Applicants do. Thus, Kanebo discloses a method of retaining curl in a keratinous material and enhancing the curl of a keratinous material (hair). In view of the foregoing, a holding of anticipation is required.

Ajinomoto provides evidence that the method of Kanebo enhances and retains the curl in hair, because Ajinomoto discloses that transglutaminase cross-links hair, and, after cross-linking, the shape of the hair is retained. Manufactured fibers of the cross-linked hair do not shrink or pill or dry out (see pp. 3-4 of the English translation). When the shape of curly hair, such as sheep's hair or curly human hair (either naturally curly or permed) is retained, the curls are retained, and the curls are enhanced because their shape is reinforced by chemical bonds.

In view of the foregoing, a holding of anticipation is required.

Claim Rejections - 35 USC § 103

Claims 1-4, 6-13 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanebo Ltd. (JP 02-204407, see English full-text translation and English abstract) in view of Ajinomoto Co. Inc. (JP 03-213574, see English translation); Dane, Hair Chemistry 1, The Trichological Society, www.hairscientists.org/hair-chemistry.htm, ©2000, printed from the Internet on July 26, 2004, and the record for transglutaminase from BRENDA, http://www.brenda.uni-koeln.de/php/result_flat.php4?ecno=2.3.2.13, printed July 26, 2004.

The teachings of Kanebo and Ajinomoto are discussed above. Neither of these references discloses the step of applying heat following the step of applying the composition comprising transglutaminase. Also, neither of these references discloses using a composition comprising transglutaminase in which the pH of the composition is about 6.

Dane discloses what one of ordinary skill in the art of perming hair, as well as every woman, knows about perming hair. To create curls and waves, after rolling up the hair on curlers, disulfide bonds between the amino acids of keratin in hair are broken and new ones formed, thereby cross-linking the keratin so that it maintains a new shape (see p. 2). Thus, one of ordinary skill in the art at the time that the invention was made would have known that in designing a product to retain or enhance the curl of permed hair, it would have been necessary to have included an ingredient that can cross-link keratin to maintain the shape of the hair to which the product is applied. Although the cross-linking agents in perming products react with cysteine residues to form disulfide bonds, the new curly shape is achieved by cross-linking the keratin strands to hold them in the curly shape, that is, by forming covalent bonds between amino acids. Thus, one of ordinary skill in the art would have reasonably expected that when the cross-linking agent transglutaminase was applied to curly hair, either natural or artificial curls, the cross-linking would have maintained the shape of the hair.

Regarding the pH of the transglutaminase composition used in the claimed method, BRENDA discloses that human transglutaminase has a pH optimum of 6 (see record for transglutaminase from the BRENDA database, top of p. 19). Thus, it would have been obvious to one of ordinary skill in the art that, in preparing a composition comprising human transglutaminase, an appropriate pH would have been approximately 6. One of ordinary skill in the art would have expected human transglutaminase to be the most effective transglutaminase for cross-linking human hair.

With respect to applying heat to a keratinous material (hair) after applying a transglutaminase-containing composition, e.g., one of the conditioning compositions of Kanebo, it is common in people's hair-care routine to wash, condition and blow dry their hair. Hair is blow dried to dry it more quickly and/or to maintain or modify the style of the hair. The style of the hair as it is after washing and conditioning, e.g., permed or naturally curly hair that one does not want to re-style, is maintained by simply drying it without other implements or with a diffuser. Permed hair in particular, which is dried out by the perming process, needs conditioner, as disclosed by Kanebo, discussed above.

Thus, it would have been obvious to one of ordinary skill in the art, or to anyone at all, that, following the treatment of hair with a composition comprising an effective amount of transglutaminase to maintain or enhance curl, as disclosed by Kanebo, the hair would have been subjected to heat to dry the wet hair and maintain its style.

Thus, a holding of obviousness is required.

Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanebo Ltd. (JP 02-204407, see English full-text translation and English abstract) in view of Ajinomoto Co. Inc. (JP 03-213574, see English translation); Dane, Hair Chemistry 1, The

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Trichological Society, www.hairscientists.org/hair-chemistry.htm, ©2000, printed from the Internet on July 26, 2004, and the record for transglutaminase from BRENDA, http://www.brenda.uni-koeln.de/php/result_flat.php4?ecno=2.3.2.13, printed July 26, 2004, and further in view of product literature for eyelash perms from E-Z Permanent Makeup (<http://www.eyelashperm.com>, which has an embedded link for ordering and product information at <http://www.ezpermanentmakeup.com>), printed from the Internet on July 26, 2004. The teachings of Kanebo, Ajinomoto, Dane and BRENDA are discussed above.

E-Z Permanent Makeup discloses that a permanent wave may also be applied to eyelashes, another form of human keratin protein, and that perming enhances the appearance of the eyelashes (see first two pages), which would motivate women to perm their eyelashes. Accordingly, one of ordinary skill in the art at the time that the invention was made would have recognized that in designing a product to maintain or enhance the curl of permed eyelashes, it would have been necessary to have included an ingredient that can cross-link keratin, as disclosed by Kanebo and Ajinomoto, to maintain the new cross-linked shape of the eyelashes resulting from the perm. The skilled artisan would have been motivated to use the method of Kanebo to retain or enhance the curl of permed eyelashes, because, as discussed above, Kanebo and Ajinomoto teach that applying a transglutaminase-containing composition to a keratinous material cross-links the keratin.

Thus, a holding of obviousness is required.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosanne Kosson whose telephone number is 571-272-2923. The examiner can normally be reached on Monday-Friday, 8:30-6:00, with alternate Mondays o.


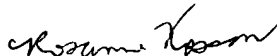
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber, can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rosanne Kosson
Examiner, Art Unit 1653

rk/2006-09-07



JON WEBER
SUPERVISORY PATENT EXAMINER